

ZOROASTRIAN ASTROLOGY IN THE *BUNDAHIŠN*

By D. N. MACKENZIE

One of the interesting features of the Pahlavi *Bundahišn*, the great work on cosmogony and cosmology completed in the ninth century A.D., is the manner in which traditional, orthodox beliefs derived from the Zoroastrian scriptures appear side by side with later and even contemporary scientific opinions. While in some parts, notably the astronomical chapter II, the resulting incongruity is undisguised, in others there has been a conscious effort of syncretism. The astrological sections are a case in point.¹

The full recension of the *Bundahišn* (*GB*) was not published until 1908, when T. D. Anklesaria's facsimile edition of the manuscript TD₂ appeared.² The long-awaited translation made by his son, giving the first indication of some of the readings of the better MS TD₁, only emerged in 1956.³ Of this recension it is the chapters V, particularly §§ 4-7, V A, V B, and VI F which deal with astrological matters. Anklesaria's is the first full translation of the work published in a European language⁴ and though completed in 1935, the fruit of many years' labour, it is often to be preferred in detail to those mentioned below.

The text of *GB* has been utilized by many others since its publication. H. Junker made the first attempt to translate the horoscope of the world, *GB*, V A, 2; later S. H. Taqizadeh expounded it in Persian in the course of an invaluable notice on early Iranian astronomy and astrology in which he identified practically all the astrological terms used in Pahlavi.⁵ Taqizadeh thanked H. W. Bailey for the reading and translation of the horoscope he gave.⁶

¹ Those innocent of astrological 'science' must be warned first, in the words of A. Bouché-Leclercq (op. cit. *infra*, 288), that 'l'imagination des astrologues est inépuisable, et qui les fréquente doit s'armer de patience', and secondly that the same virtue is generally needed in reading their detractors. No better or more amusing survey of the subject is to be found than Bouché-Leclercq's monumental *L'astrologie grecque*, Paris, 1899, reprinted 1963.

² *The Būndahishn*, edited by the late Ervad Tahmuras Dinshaji Anklesaria, with an introduction by B. T. Anklesaria, Bombay, 1908.

³ *Zand-ākāsh, Iranian or Greater Bundahišn, transliteration and translation in English*, by Behramgore Tehmuras Anklesaria, Bombay, 1956. The numeration of this edition, by chapter and section, will be used hereafter for convenience, combined with page and line references to the above-mentioned facsimile.

⁴ E. W. West's translation in *Sacred Books of the East*, v, *Pahlavi texts*, Pt. I, 1880, is of the shorter Indian recension; of the sections concerning us only V, 4-5 (in part) and V B, 1-11 are translated (combined in West's chapter v).

⁵ H. Junker, 'Über iranische Quellen der hellenistischen Aion-Vorstellung', *Vorträge d. Bibl. Warburg*, 1, 1921-2, (pub.) 1923, pp. 165 ff., Anm. 64; S. H. Taqizadeh, *Gāh-šomāri dar Irān e qadīm*, Tehran, 1937, *Tabšere*, 308-40.

⁶ Through the generosity of the author I have also had access to a copy of the text, translation, and notes to the *GB* in the form in which it was presented in 1933 by Sir Harold Bailey as his thesis for the degree of D.Phil. Wherever I have consciously drawn on this the fact is gratefully acknowledged.

The cosmological sections of *GB*, V B, 1–11 and 20, were quoted by H. S. Nyberg in his study on the Mazdayasnian calendar; the astrological sections, 12–13, with a few other scattered passages, were grist to R. C. Zaehner's Zurvanic mills.⁷ The section concerning the fate of the First Man, *GB*, VI F, H. H. Schaefer translated, in conjunction with the corresponding sections of the *Wizīdagihā ī Zādspram*.⁸ Finally there appeared W. B. Henning's translation and annotation of 'An astronomical chapter of the Bundahishn',⁹ without which a proper understanding of the astrological sections would be impossible.

Still the last word on the subject has not been said and, although a final critical edition of the text of *GB* has yet to appear, it may be of use to present a complete and annotated translation of the sections in question, with occasional reference to other Zoroastrian texts on the same subjects.

V. Concerning the antagonism of the two spirits, that is, how they came into opposition on the spiritual plane, the chief demons to the spiritual gods (*kamāligān dēwān ō mēnōgān yazdān*).

[47.8] (1) As: Ahreman to Ohrmazd, Akoman to Vahman, Indar to Urdvashist, Savar to Shahrevar, Nangheth—whom they also call Taromad—to Spandarmad, Tarich to Hurdad, Zarich to Amurdad, Eshm (Wrath) to Srosh, etc. [there follows a list of 30 oppositions between demonized vices, such as 'falsehood', 'cold', 'dissatisfaction', and their spiritualized counterparts, 'truth', 'heat', 'satisfaction', etc.]

[48.14] (2) Other demonic spirits (*dēwīg waxš*) to divine spirits (*yazdīg waxš*), as Mazan demons, male and female (*dēwān druzān māzanīgān*), to gods and bounteous immortals (*amahraspandān*).

[49.1] (3) And in the material world (*gētīg*)¹⁰ darkness came to (oppose) the sky, thirst to the water, etc. [there follows a list of a dozen such demonized plagues which afflict material creatures] and other demons of the material world (*gētīgīg druz*) to gods of the material world.

[49.12] (4) And in the firmament the dark [i.e. eclipsed?] sun (*mihr ī tamīg*) came to (oppose) the sun (*xwaršēd*) and the dark moon to the moon holding the seed of cattle (*māh ī gōspand-tōhmag*), and these tied them to their own chariots with a common bond.¹¹ Other sorcerers and peris (*jadūgān parīg<ān>*)

⁷ H. S. Nyberg, *Texte zum mazdayasnischen Kalender*, Uppsala, 1934; R. C. Zaehner, *Zurvan, a Zoroastrian dilemma*, Oxford, 1955, ad loc.

⁸ R. Reitzenstein and H. H. Schaefer, *Studien zum antiken Synkretismus aus Iran und Griechenland* (Studien d. Bibl. Warburg, 7), Leipzig, 1926, 221–3.

⁹ *JRAS*, 1942, 229–48 (cited ACB).

¹⁰ This reading of the variously written Phl. word is preferred to the *gētī(h)* advocated by Henning, *BSOAS*, XII, 1, 1947, 64 ('the Old Syriac spelling *gtyh*' quoted there appears in a text abounding in misspelt Iranian words). On the analogy of its antonym, *mēnōg* (< *mainyawa-ka-*), which seems to have assumed the functions of a displaced **mēnūg* (< *mainyu-ka-*), the 'learned' adjective *gētīg* (< *gaēthyā-ka-*) was probably also used as a noun (as Man. MP *gytyg*), leading to a secondary adjective *gētīgīg* in Phl.

¹¹ Reading: *u-šān ō rah ī xwēš bast hēnd pad hampaymānagih*. The statement is repeated at V A, 7 (q.v., with n. 30) and V B, 12.

came with all ¹² the destructive planets to (oppose) the fixed stars, the seven generals of the planets to the seven sidereal generals,¹³ as Mercury (*Tīr ī abāxtarīg*) to Sirius (*Tištār*), Jupiter (*Ohrmazd ī ab°*) to the Great Bear (*Haftōreng*), Mars (*Wahrām ī ab°*) to Vega (*Wanand*), Venus (*Anāhūd ī ab°*) to *Sadwēs* (? Fomalhaut), Saturn (*Kaywān*), the commander-in-chief of the planets, to the Peg in the middle of the sky (Polaris), and the Dragon (*Gōčīhr*) and the tailed Mush Peri to the sun and moon and stars.¹⁴

[50.8] (5) The sun tied Mush Peri to its own chariot with a common bond so that it could do less harm. When it becomes free it distributes much evil until it is recaptured.

[50.10] (6) And in the cloud-station Spenjagr¹⁵ came to (oppose) the Vazisht fire and the demon Aposh to Sirius and its collaborators. (7) Other demons from the same source (*hamčāšmagān dēwān*) came to (oppose) the Wind and the gods making the rain (*Wād ud wārān-kardārān yazdān*),¹⁶ (8) and their details are long and their behaviour and striving to . . .¹⁷ is revealed in astrology.

V A. Concerning the horoscope of the world (*zāyč ī gēhān*),¹⁸ how it happened (*čiyōn jast*).

[51.1] (1) He says¹⁹ in the Religion that at noon on the day Ohrmazd of the month Fravardin, when day and night were equal, the aggressor rushed in.²⁰

[51.3] (2) (The ascendant, or cusp of the house of) Life was 19 degrees

¹² Reading, tentatively, <h>lk'yn', cf. Man. MP *hrwkyn* = *har(w)kēn*.

¹³ v. Henning, ACB, 231, third paragraph and notes.

¹⁴ See (i) M. P. Kharegat, 'The identity of some heavenly bodies mentioned in the Old Iranian writings', *Sir Jamsetjee Jejeebhoy Madressa jubilee volume*, Bombay, 1914, 116–58; (ii) Henning, ACB, 246 f., F and G; (iii) V A, 3–5 below, with notes.

J. Filliozat, 'Notes d'astronomie ancienne de l'Iran et de l'Inde', *JA*, CCL, 3, 1962, 329 ff., casts reasonable doubt on Henning's conclusion that *Sadwēs* = Antares, but his own nominee for the position, λ-Aquarii, Skt. *śatabhiṣaj*, is an insignificant star quite unfitted for generalship. If his argument be accepted, that *Sadwēs* should be in a line with the Great Bear and the celestial pole (there is no reason for it to be near the ecliptic), the most outstanding candidate seems to be Fomalhaut, α-Piscis Austrini, which has always been visible for part of the year as far north as 45°, though comparatively low in the southern sky. A. E. W. Jackson made the same identification, without stating his reasons, in the *Encyclopaedia of religion and ethics*, XII, 86.

¹⁵ v. Henning, ACB, 239, note C, on the 'cloud-station'. The MSS have *spncwš* (for Av. *spinjauruška* - 'an enemy of Vishtasp'), both here and at XVIII, 5, instead of the expected *spncgl*, Av. *spnǰayrya* -; cf. *Vd.*, xix, 40, 'the Vazisht fire, which smites the demon Spenjagr'.

¹⁶ v. V B, 14 and n. 48.

¹⁷ Reading: *u-šan rawišn ud kōxšīšn ō . . . pad axtarmārih-iz paydāg*. No satisfactory sense is to be got from the words which fill the gap; they can be read variously as *wihēz/wišeš/nīšeš* + *nīrang/nēroḡ/ud drang*. Cf. perhaps IV, 23 = 44.9, 'the striving of the Mazan demons with the fixed stars'.

¹⁸ v. Appendixes A and B below.

¹⁹ i.e. Ohrmazd; v. Henning, ACB, p. 231, n. 8.

²⁰ This time of the onslaught of the Evil Spirit, at noon of the day of the vernal equinox, being the first day of the first month, has already been stated in IV, 10 = 42.4. The onslaught set all creation, previously still, in motion; cf. II, 17 = 29.12, Henning, ACB, 234.

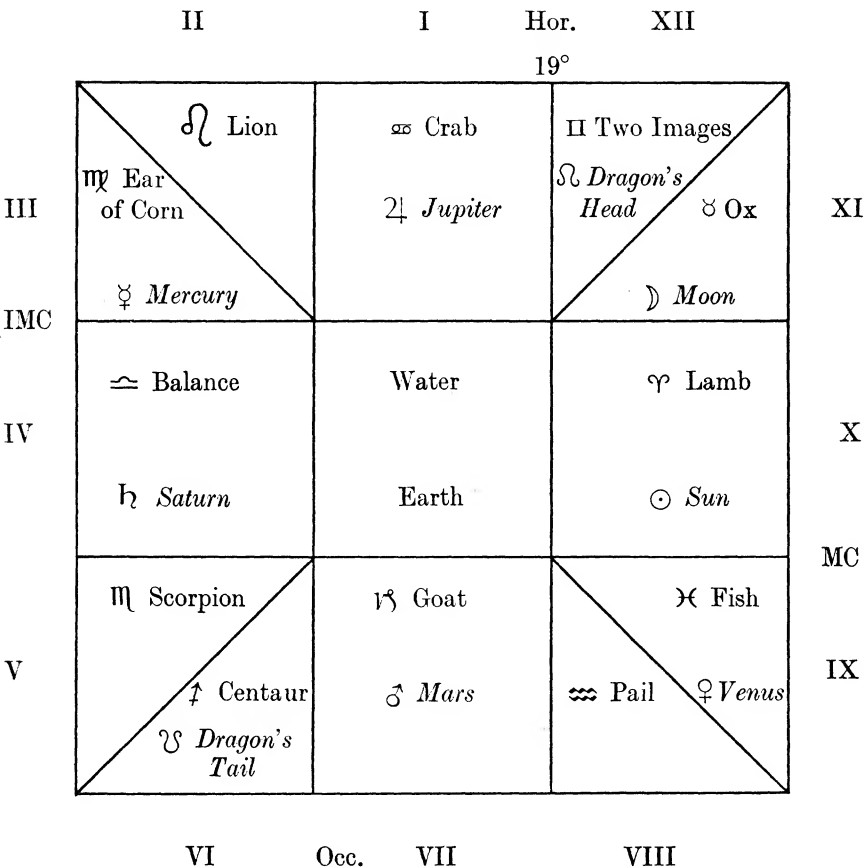


FIG. 1. The horoscope of the world (v. Appendixes A and B).
The original has only the names within the diagram.

(*sus*/*š*) of the Crab, in the lunar mansion *Azarag ; ²¹ in it was the star Sirius ; ²² of the planets Jupiter was in it (*andar būd*) : (the house of) the Purse was in the Lion and Brothers the Ear of Corn—(Mercury was in it) : ²³ Homes (?) the

²¹ 19°, i.e. 109° longitude, falls in the ninth lunar mansion *Az/barag (106° 40'–120°) ; v. Henning, ACB, 243 ff., Taqizadeh, op. cit., 326. This statement appears to rule out any possibility of the figure 19° being a simple mistake for the more usual 15° ; v. further Appendixes A and B.

²² Reading, with B. T. Anklesaria : *fast andar Tištar stārag*. Henning, ACB, p. 246, n. 1, interprets this as ' Sirius was rising ' and proceeds to calculate an admittedly ' rather unsatisfactory ' latitude and date at which such conditions might have been observed. But it is surely unbelievable that any astrologer would attempt to combine observed conditions with the ' nativity ' of the world. From the remainder of the paragraph, moreover, it emerges that *andar fast* means that a particular heavenly body ' happened to be in ' a given house of the Dodecatopos. This reading extends the limits of possible time and place so much as to render any calculation pointless. In all, it seems more likely that the insistence on Sirius being in the first house (here and in VI B, 1 = 61.10) derives from the fact that the ascendant is necessarily under the command of Sirius as ' the general of the east ' (II, 4 = 26.11, and § 3 below).

²³ Regarding the position of Mercury, v. Appendixes A and B below.

Balance—Saturn was in it (*andar ĵast*): Offspring the Scorpion and the Sick the Centaur—the Dragon's Tail was in it: Marriage the Goat—Mars was in it: Death the Pail: Travellers the Fish—Venus was in it: the Middle of the sky the Lamb—the sun (*mihr*) was in it, in the lunar mansion <*Padispar>:²⁴ Good Fortune the Ox—the moon was in it: Bad Fortune the Two Images—the Dragon's Head was in it.

[51.14] (3) Those planets, when they rushed into the firmament in this manner, fell to striving with the fixed stars (as follows): the dark sun and moon with the sun and moon (proper), the princes of the luminaries (*rōšnān šahryār*); Jupiter with the Great Bear, general of the north; Venus with *Sadwēs*, general of the south; Mars with Vega, general of the west; Mercury with Sirius, general of the east; Saturn with Polaris, the commander-in-chief.

[52.8] (4) In the sky, in the same manner (as their counterparts), of the planets Mercury became (*ĵast*) general of the east, Mars general of the west, Venus general of the south, Jupiter general of the north, Saturn commander-in-chief, and the dark sun and moon princes of the dark bodies (*šahryār ī tamīgān*).²⁵

[52.12] (5) The Dragon²⁶ stood in the middle of the sky like a serpent (*mār*), its Head in the Two Images and its Tail in the Centaur, so that at all times there are six constellations between its Head and Tail;²⁷ and its running is

²⁴ Phl. *pt(y)spl* = **Padispar* is the first lunar mansion, ♄ 0°–13° 20'; v. Henning, ACB, 244, and V B, 5 below.

²⁵ Whatever the origin of the allotment of regional commands among the stars (said at II, 4, to have scriptural authority), this distribution of planetary opponents to each of the star-generals is certainly secondary, following in the main a pattern of planetary authority well established in astrology; v. Bouché-Leclercq, op. cit., 201. The pattern described here differs from the norm in making Mercury 'general of the east' in place of Saturn. This may have come about through the promotion of Saturn, *Kpōvos*, identified with Zurvan, to commander-in-chief. (Anyone rash enough to enter the Zurvanic jungle has a vast quantity of rotten wood to cut away. Suffice it on this point, without further speculation, to refer to the Armenian recording of the Persian names of the planets, where at least *anahit* 'Venus' and *zruan* 'Saturn' are recognizable; v. Hübschmann, *Armenische Grammatik*, I, p. 94, n. 1, quoted by Junker, op. cit., 169.) Mercury, ambivalent in all ways to the classical astrologers, would then have been the only candidate for the command vacated. See, however, p. 520, n. 46.

²⁶ Of the various Dragons in the sky this is the creature whose Head is formed by the ascending node of the moon (i.e. the point where the moon's orbit crosses the plane of the ecliptic from south to north) and its Tail by the descending node; v. Bouché-Leclercq, op. cit., 122; Kharegat, loc. cit., 126 ff. These nodes are naturally within the zodiac and opposite each other. The Dragon is accordingly often represented as supporting six zodiacal constellations on its back, the other six hanging from its belly.

The following words, 'middle of the sky', though properly denoting the region of the zenith, are also used for the polar region in this text (v. Henning, ACB, 241, note D). There may, therefore, be a reminiscence here of another, older Dragon, viz. the circumpolar constellation Draco.

Regarding the name *gōčīhr*, later *ĵauzahr(a)*, it is hardly necessary to repeat that it derives from Av. *gao-ēiθra-* (v. B. Geiger, *WZKM*, XL, 1933, 108 ff.) except to emphasize that the epithet is now almost entirely divorced from the moon, which retains instead the same description in translation, 'holding the seed of cattle' (v. V, 4).

²⁷ Reading, with B. T. Anklesaria: *ēiyōn mayān ī sar ud dumb har gāh 6 axtar bawēd*. Junker and Bailey, *apud* Taqizadeh, read unacceptably: *har 86 axtar. har gāh* is hardly 'in all directions', Zaehner, op. cit., 164, E.

retrograde (so that) every ten years²⁸ the Tail reverts to where the Head (was) and the Head to where the Tail (was).

[53.2] (6) The tailed Mush Peri was winged. The sun tied it to its own chariot so that it might not be able to cause harm. When it becomes loose, until it comes back to its common bond²⁹ with the sun and is tied, it causes much evil in the world (*gēhān*).

[53.5] (7) Of those planets the dark sun and Mush Peri are tied by a common bond beneath the sun—during the Mixture, to the chariot of the sun, and the dark moon to the chariot of the moon.³⁰

[53.8] (8) The other planets (*abārīg* **abāxtar*) are tied to the same chariot of the sun in their elongation and diminution³¹ and they cannot exceed that bond (*paymānag*), for Saturn, Jupiter, and Mars are tied to 180° from the sun and Mercury to 1,850' and Venus to 2,831'.³²

[53.14] (9) Of each one of these planets, in the firmament with the twelve signs of the Zodiac, its own house (*kadag*) and detriment (*petyārag*) and exaltation (*bālist*) and dejection (*nišēb*) and terms (*marz*) and aspects (*sōg*) and decans (*dahīg*) and felicities (*šādīh*) and afflictions (*bēš*) and many other kinds of positions (*gyāg-gāh* > *ḡyāgāh*) have been revealed.³³ All the arrangement of time, which, as is obvious to the eye (*čiyōn čašm-dīd paydāg*), is connected with the fixed stars, they destroy and they make upwards downwards and

²⁸ The line of nodes actually turns in the direction opposite to the moon's movement so as to complete a half circle, 180°, in a little over 9½ years, when the Head and Tail will have changed places exactly.

²⁹ Reading *hampaymānagīh*, with Bailey, for the isolated *hamčāšmānīh* of the MSS; cf. V, 5 above.

³⁰ The emphasis apparently laid here on the fact that the common bond between the sun and moon and their adversaries is a phenomenon of the Mixture, unnecessary as it is, since the adversaries were not even present before the Onslaught, lends support to the translation 'chariot' for the Phl. word variously spelt *lh*, *lyy*, *l'/hy*. It may be read *rah* < Av. *raθa*- 'chariot' or *rāy* < Av. *rāy*- 'splendour' (Bailey). In the *Škand-gumānīg wizār*, iv, 46, it is said that the *mīhīr u māh i aβāxtarī* . . . *ažār brih i du rōšanā raβand*, but *brih*, Skt. *rocis*, 'splendour', i.e. Phl. *bly(y)h*, may be no more than a misreading or 'correction' of the *lhy* of the *GB*. The sun's splendour is eternal, but it could only be conceived of as having a chariot once it began to revolve.

³¹ By *kastagīh* 'diminution' presumably 'conjunction' is meant, when a planet is directly in line with the sun from the earth and accordingly at its minimum elongation, zero.

³² The maximum elongations of Mercury and Venus are in fact approximately 27° and 45° respectively. The figure given for Venus (= 47° 11', intriguingly, to an accuracy of one minute) is only slightly greater than the true value. The reason for Henning's emendation (ACB, 238, B) of 1,850' (= 30° 50') to 1,350' (= 22° 30') for Mercury is therefore obscure. [I now learn from Professor Henning, and he has asked me to publish the fact, that the figures as printed were the result of a compounded printer's error and that he had intended an emendation to 1,650' = 27° 30'. While this is eminently more possible, there does not seem to be any reason for assuming greater accuracy in the observation of Mercury than in that of Venus, but rather the reverse.]

³³ v. Taqizadeh, op. cit., 336 f. The only term with a solely astrological meaning is 'decan'. The Phl. *dahīg* 'tenner' must be calqued on Gk. *δεκανός*, while the NP and Ar. forms *darēgān* > *darīfān* derive from Skt. *drkāṇa*-, *drekkāṇa*-, assimilated loan-words from the Gk.

Another oblique reference to the decans is made at VI B, 4 = 62.9 where, in connexion with the three appearances of Tishtar/Sirius as a man, a horse, and an ox (v. *Yt.*, 8, 13–20), it is said: *čiyōn axtar-āmārān gōwēnd kū har axtar-ē 3 kirb dārēd* 'as the astrologers say that each sign of the zodiac has three forms'.

what is diminished increase (*ul frōd ud kast aβzōn kunēnd*). And their movement also is not like (that of) the fixed stars, for sometimes they are quick, sometimes slow, sometimes retrograde, sometimes stationary. And their being named 'planets' (*abāxtarān*) is for this, that they are 'not stars' (*nē axtar*).

[54.8] (9A) And this light visible from them is the same Ohrmazdean light, (which they wear) in the manner of evil men who don the clothes of soldiers (*spāh*), like the light in the eyes of noxious creatures (*xrafstarān*). And the advantages from it are, one this, that on account of donning that light they are less able to do harm, and an(other) this, that men see them and do not fear them, (thinking,) 'This passes in the same manner as a star';³⁴ for they are demons, causing decrepitude and evil (*zarmānīh- ud anāgīh-kardār*) and when they run in the firmament the light of the firmament is agitated and becomes visible. (10) He says in the Religion, 'If a person should see that demon the sight of his eyes would go'.³⁵

V B [55.3] (1) It is revealed³⁶ that the mountain Harburz is around the world (and) the mountain Terag is in the middle of the world. The revolution of the sun (*xwaršēd gardišn*) is like a crown around the world. In (a state of) purity above the mountain Harburz it turns back around Terag,³⁷ (2) as He says, 'Terag of the Harburz, behind which my sun, moon, and stars turn back'.³⁸

[55.8] (3) For there are 180 windows (*rōzan*) in the east and 180 in the west (*xwarwarān*) in Harburz. Every day the sun comes in through one window and goes out by one window. The bonds (*band*) and the motion of the moon, the fixed stars and the planets are all to it. Every day it shines on (*hamē tābēd*) three and a half continents (at any one time).³⁹

³⁴ Reading: *handāzag ēn axtar homānāg widerēd*. Bailey emends similarly but translates differently.

³⁵ Reading: *ka kas ān druz bē dād hād wēnišn ī ēašm bē šud hād*. In the preceding paragraph (9A) two different explanations of the brightness of planets have been juxtaposed in such a way as to appear reconcilable, at a pinch—one that they wear a portion of divine light (stolen or rubbed off the sky?) to deceive, but in fact defeat their own ends, the other that their movement disturbs the divine light of the firmament, which then beneficently screens them from the vulnerable sight of men. Yet another explanation is given in the second Parsi text entitled '*Ulamā-i Islām*' (v. Zaehner, op. cit., 412, § 25), where it is said that Ohrmazd bound seven demons to the firmament and then surrounded them with light.

³⁶ Reading, with the Indian recension: *kōh ī harburz paydāg kū pērāmōn ī gēhān*.

³⁷ Reading: *andar abēzagīh azabar kōh ī H. pērāmōn ī T. abāz wardēd*. Nyberg and Bailey take the first two words to mean 'during the period of non-contamination', but before the aggression the sun did not turn at all.

With 'above . . . Harburz' cf. *Yt.*, 10, 118, 'as that sun goes forth across high Hara in his course'; similarly, *Vd.*, xxi, 5. At *GB*, IX, 2 = 76.9, however, it is stated that Harburz reaches past the stations of the stars, the moon, and the sun 'to the summit of the sky' (*ō bālist ī asmān*)—a statement incompatible with either the Avestan passages or the present text.

³⁸ *Yt.*, 12, 25, 'on the peak (*taēra-*) of Mount Haraiti (*haraitī- baraz-*), round which my stars, moon, and sun revolve'. Generally, as at *GB*, XXX, 1 = 199.3, the mountain in the middle of the earth is called *čagād ī Dāiti* 'the Peak' (cf. Arm. *čakat*, NP *čakād* (with *-k-*) 'forehead, peak', Jewish Pers. *čēyād*, Kurd. *čiyā* 'mountain') of the Law (Av. *dāitya-*). At IX, 3 = 76.13, the two names, Terag and Daiti, appear side by side.

³⁹ v. § 11 below.

[55.12] (4) As is obvious to the eye, twice each year day and night are equal, (5) for at the original battle, when (the sun) went forth (*frāz raft*) from the first asterism (*az nazdist xwurdag*) of the Lamb, day and night were equal, at the time of spring; and afterwards, when it reaches the first asterism [i.e. point] of the Crab, the days are longest (*mahist*), at the beginning of summer (*bun ī hāmīn*); when it reaches the (first) asterism of the Balance day and night are equal, at the beginning of autumn; when it reaches the (first) asterism of the Goat the nights are longest, at the beginning of winter; when it reaches the Lamb anew (*nōgtar*) day and night are again equal. (6) As, from when it goes forth (*frāz wardēd*) from the (first asterism of the) Lamb until it reaches the Lamb again, in 360 days and those 5 intercalary (*gāhānīg*) days,⁴⁰ it comes and goes through the same (set of) windows. (Which) window is not stated, for if it had been stated the demons would have known the secret and could have planned (some) harm.

[56.9] (7) From where the sun rises (*abar āyēd*) on the longest day (*rōz ī mahist*) to (where) it rises on the shortest day (*rōz ī keh/kahist*) is the east (*xwarāsān*), the continent of Arzah. (8) From where it rises on the shortest day to (where) it goes out (*bē šawēd*) on the shortest day is the direction of the south (*nēmrrōz*), the continents of Fradadafsh and Vidadafsh. (9) From where it goes down (*andar šawēd*) on the shortest day to (where) it goes down on the longest day is the west (*xwarōfrān*),⁴¹ the continent of Savah. (10) From where it comes up (*andar āyēd*) on the longest day to where it goes down on the longest day is the direction of the north (*abāxtar*), the continents of Vorubarsht and Vorujarsht.⁴²

[57.2] (11) When the sun rises it shines on the continents of Arzah and Fradadafsh and Vidadafsh and a half of Khwaniras. When it goes down on that side of Terag it shines on the continents of Savah and Vorubarsht and

⁴⁰ A more accurate figure is given at § 20 below and repeated at XXV, 26 = 161.9.

⁴¹ 'East' is always *hwł's'n* = *xwarāsān* in the *GB*, but 'west' appears in a number of forms. Here and at 192.2 *hwłwpl'n* = Man. MP *xwrwpr'n* = *xwarōfrān* < **x'ar- awafrāna-* (Nyberg's reading *x'arōparān*, op. cit., 64, is ruled out for Man. MP by the medial *-p-*). The Phl. could equally well be read *xwarnīfrān*, cf. Man. Parth. *hwrnyfr'n*, MP *xwrnu'r*, but the spelling *hwłwpl'n* also occurs, e.g. 27.2, to support the above reading and equation. At 52.9, 65.2, etc. *hwłwł'n* = *xwarwarān*, cf. Jamasp-Asana, *Pahl. texts* 20.13, 118.14, *hwłbl'n* = *xwarβarān*; Man. MP *xwrpr'n* = *xwarparān*; al-Birūni, *Āthār*, خربران. All these forms contain the verb Av. √⁴*par* 'go over', etc.

⁴² This translation of §§ 7–10 agrees in the main with that of B. T. Anklesaria. Nyberg, op. cit., 24–7 and 65, is led by an improbable distinction between *mas* (i.e. *meh*) and *mahist*, *kas/kēh* (= *keh*) and *kasist* (= *kahist*) days, and a misunderstanding of *andar šudan*, into unnecessary difficulties of interpretation. *andar šudan* can only refer to the setting of the sun. It is tempting to think of NP (*ba*)*dar raftan* 'to go out, escape', but the adverb there is certainly not to be connected with *andar*. (Horn, *Gr. NP Et.*, 120, compares Kurd. *bar* 'draussen' — properly 'away', as in *bar dān* 'to set free, loose' — < **dwaram*, but it is also possible, at least in this context, to think of a contraction of NP *badar* < **bēdar* 'further out'.) Cf. rather Gk. ἡλιοδύσιον, Heb. *məḥō haš-šemetš*, Arm. *arew-mutk'*, lit. 'sun-entrance' = 'sunset', and even English 'the sun has gone in', i.e. 'hidden itself' (suggestions I owe to my colleague Dr. C. J. F. Dowsett).

Regarding the positions of Arəzahi and Savahi, v. Henning, *Sogdica*, 28 f.

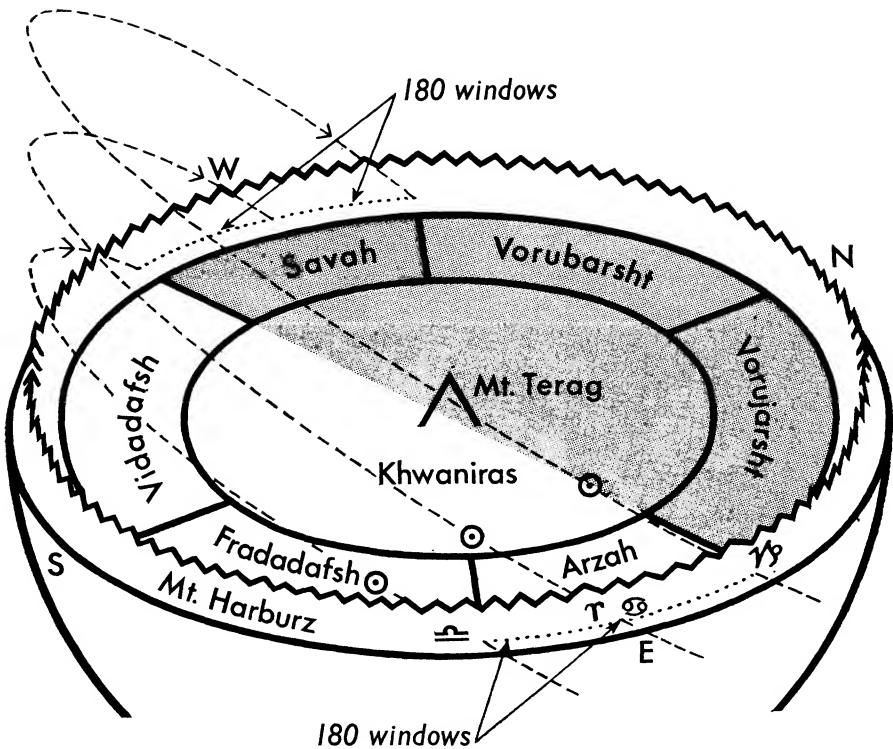


FIG. 2. The revolution of the sun.

Vorujarsht and a half of Khwaniras. When it is day here it is night there, for night is manifested on account of the mountain Terag.⁴³

[57.7] (12) In the beginning, when the adversary rushed in, it so happened that the dark sun and moon were not able to do any harm on account of their common bond with the chariots of the sun and the moon. The Great Bear and *Saduēs* were of greater power (*frēh nērōgtar šast hēnd*) than Jupiter and Venus and they restrained⁴⁴ Jupiter and Venus from doing harm. For the same

⁴³ To understand this surprising statement it is possible at the summer solstice to conceive of a sun whose rays only shine forward and to the left, leaving everywhere to the right of a line from the sun to Mt. Terag, the middle of the earth, lying in darkness. At all other seasons, however, such a simple conception is impossible. Presumably the original idea, either misunderstood or misrepresented by the author, was that the sun's rays could not reach beyond a line running through Mt. Terag at right angles to the line from the sun to the middle of the earth.

⁴⁴ *p'tyl'nynyit*, v. Bartholomae, *Zum sas. Recht*, II, 32 ff. The verb is a causative formation from an adjective whose meaning 'retained, restrained' is well established. Henning (*OLZ*, XXXVII, 12, 1934, col. 755) considered the *pādirānihaš* and *pādirā*. *kurdāri* of *ŠGV*, xvi, 26, 41, to be denominative forms from NP *pāḍēr* 'Stützbalken'. *pāḍēr*, earliest defined as a 'door bar' (*Šams-i Faxrī*, ed. Salemann, p. 42u, *čūbī bāšad ke az bahr-i iškām dar pušt-i dar nihand*), may best be derived from a **paddēr* < **pati-dwarya-* (rather than from either *√dar* 'hold' or *dāru-* 'wood') and connexion with an adjectival *pādyrān* seems unlikely. Rather *pādirān* < **pātiyṛāna-* < **pati-√grā-na-*, Av. *√gar*, Skt. *√(jā)gr* 'wake'; cf. Man. MP and Parth. *wygr'd* = *wiyrād* > **bīrād* > NP *būdār* 'awake' (Henning, *BSOS*, x, 1, 1939, p. 103, n. 1), also the Skt. combination *prati√jāgr* 'watch beside' and, in form, Man. Parth. *p'dgr'w* = *pādiyṛāw* < **pati-grāba-*.

reason astrologers call them benefic (*kirbakkar*). Mars was more powerful than Vega and Saturn than Polaris (*mēx ī gāh*), and their harmfulness is manifest. For this astrologers consider them malefic (*bazakkar*). Mercury, which is the demon Aposh, came to (oppose) Sirius. Both were of like strength and power (*hāwand zōr ud hāwand nērōg*). For this astrologers say that Mercury is benefic (when associated) with the benefic (*abāg kirbakkarān kirbakkar*) and malefic (when) with the malefic (planets).⁴⁵ [Some say that Aposh is *not* Mercury.]⁴⁶

[58.4] (13) For the same reason they say that Jupiter is the star of life and Saturn the star of death; for Jupiter, on account of its powerlessness (*a-pādyā-wandīh*) in the conflict, bestows (in effect) that which its opponent (the Great Bear) desires—it gives life and greatness and wealth; Saturn, on account of its victory (*čērīh*) over its opponent (Polaris), does that which is detrimental (*petyār*) to it—death, meanness, and poverty then are from (this) same adversary.⁴⁷

[58.9] (14) They say (*gōwēd*) that Venus is of a watery nature (*āb čihrag*), for its opponent *Sadwēs* is of a watery nature, and they call (*gōwēnd*) Mercury airy (*wādīg*) as it is the opponent of Sirius and the Wind (*wād*), the makers of rain.⁴⁸

[58.12] (15) Again (there is) this, that until the coming of the aggressor 6,000 years of time had passed, 3,000 years of spirituality (*mēnōgīh*) and 3,000

⁴⁵ v. Bouché-Leclercq, op. cit., 101. Zaehner, op. cit., 160, 165, H, has 'does good to those who do good and evil to those who do evil' (despite his correct translation of an almost identical statement in a Persian *Rivāyat*, ibid., 417), thus forcing *abāg* 'with' into the meaning of *ō* 'to' and putting into the mouths of astrologers a moralistic statement of which they would have been professionally incapable.

⁴⁶ This note appears to be an addition by a later hand, since the equation of Tir with Aposh is made again by the author of the *GB* at VI B, 12 = 63.13. There, after a description of the equal battle between Tishtar/Sirius and *Aposh* (taken from *Yt.*, 8, 20 ff.), it is said: *ēd rāy pad ān čim Tīr abāg Tīštar hāwand nērōg gōwēnd* 'therefore, for that reason they say that *Tir* and Tishtar are of equal strength'.

Apaōša- is the only demon opponent of a star general, viz. *Tištrya-*, specifically named in the Avesta. When the planet Mercury appeared on the Iranian scientific scene it was named after a god, *Tīra-*, as were all the planets except Saturn (*Kaywān* < Akk. *kaiaw/mānu* - 'the permanent'; in view of NP *keivān*, this transcription of the Phl., indicating that the word was borrowed after the development of Ir. *-ay(a)-* > *-ē-*, seems preferable to **kēwān*; Syriac *kēwān* is irrelevant). Once Mercury was established as the opponent of *Tištar* the equation *Tīr* = *Apōš* was bound to follow. Later the names *Tir* and *Tishtar* were confused (e.g. *GB*, III, 18 = 37.6, *čiyōn Tīr Tištar* 'as, *Tir* is Tishtar'). Since the establishment of Mercury as 'general of the east' was an Iranian innovation (v. p. 515, n. 25) it may have arisen from nothing more substantial than this same similarity of names.

A different identification of demons with planets is to be found in the late, Parsi text '*Ulamā-i Islām* (II) (v. p. 517, n. 35), with no mention of Aposh.

⁴⁷ Reading, with Bailey: *margīh ud wadagīh ud driyōšīh pad-iz ham petyārag*.

⁴⁸ This passage and V, 6 above must be read in conjunction with III, 18 = 37.6, 'Sirius . . . takes the water with the help of Fravardin, i.e. the guardian spirits of the righteous, and entrusts it spiritually to the Wind. The Wind arranges the water well and causes it to pass over the continents, by means of the clouds, and with its collaborators causes it to rain (*wārēnēnd*)'. Though it is possible to read *w't' w'l'n krt'l'n'* as *wād-ud-wārān-kardārān*, it seems better to isolate the divine Wind, assuming that its 'collaborators' are the unnamed 'rain-making gods' of V, 6 and that *Tištar ud Wād ī wārān-kardārān* alone, the rain-makers *par excellence*, are mentioned here.

years of materiality in (a state of) purity (*gētīgih pad abēzagih*). (During) those 6,000 years each (zodiacal) constellation from the Lamb to the Ear of Corn ruled for a millennium. (16) As the millennium of lordship came to the Balance, which is . . . the dejection of the sun (*mīhr*),⁴⁹ the aggressor rushed in from below. (17) Saturn was in the Balance. On account of its being in its exaltation, the Balance, Saturn received the lordship of the millennium. As the Balance (was) <down>⁵⁰ and the Lamb up, Saturn the lord of darkness and the sun the lord of light, opposed to darkness, so too the Balance became (*ġast*) the exaltation of Saturn and the dejection of the sun and the Lamb the exaltation of the sun and the dejection of Saturn. (18) On account of the length of the yoke⁵¹ of Saturn, and that too of the Balance, men were taller and greater (*mahisttar*!) in that millennium. (19) And the sun, the lord of light, stood above all the fixed stars and Saturn, the lord of darkness, above all the planets.

[59.11] (20) Then, from where the sun went forth (*frāz raft*) until it came back to the same place was reckoned (*hangārd*) as a year, 365 days, 5 hours (*zamān*) and a bit (*xwurdag*), each day being 24 hours, a half dark and a half light, i.e. night and day, and the five periods of a night and day were revealed. (21) As the struggle of each creation (*dahišn*) is with its own opponent, so too (is that of) day with night, for for six months there is an increase in the day at the expense of the night, against six months when there is an increase in the night at the expense of the day.

[60.3] (22) Other astrological matters are manifest, but more decisively⁵² those which are manifest from the good religion of the Mazda-worshippers.

[This mark (*daxšag*) in the sky, which they call the Milky Way,⁵³ is the

⁴⁹ The text is corrupt: TD₂ *tl'cwk* . . . 'AYT' *šp'n' šp Y mtr'*. The sun's dejection is 19° ☾, but reading *hast* . . . *nišēb ī mīhr* still leaves a *šp'n* or the like common to all the MSS. No reading suggests itself ('shepherd'?, 'paths'?) except perhaps **šabīg*. *Libra* is not especially 'nocturnal' in any general astrological sense (v. Bouché-Leclercq, op. cit., 156); indeed it is the diurnal house of Venus. But since it was the *Imum Medium Caeli* before and at the time of the aggression, i.e. below the earth in darkness, it may have been considered a nocturnal sign by Zoroastrian astrologers.

⁵⁰ Reading: *ēiyōn* <*frōd*> *tarāzūg ul warrag*.

⁵¹ This 'yoke' (with Bailey), Phl. *ywg* = *ġuy*, is another name for the bond (*paymānag*) mentioned in V A, 8. Since a yoke is essentially a solid beam, the word used in *ŠGV*, iv, 39 f., seems preferable—Paz. *ġik*, Skt. *rajju* 'rope', for Phl. *zyk* = *zīg* 'tow-line'—but it cannot be read into the *GB* MSS. The constellations, however, have no bonds with the sun of any importance that we are told of (the only mention of any bond being that at V B, 3). It is possible, therefore, that by 'that too of the Balance' the imaginary yoke of *Libra*, Gk. *ζυγόν*, is meant (cf. *GB*, 199.4, *ġuy ī tarāzūg*) and that the use of the same word for the bond of Saturn is a conceit, the more welcome for its unexpectedness.

⁵² Reading <*n*> *ēw-wizārihā-tar* or, with Bailey, 'hu-*w*': the meaning is certain from Paz. *gaovazārtar* (*ŠGV*, iv, 103) = Skt. *svayaktataram*.

⁵³ Phl. *l's Y *k'dws'n* = *rāh ī Kāwōsān* 'the path of Kaos', the story of whose abortive flight to heaven is told in the *Dēnkard*, ix, 21, and the *Shahname*. The NP name of the Milky Way, (*rāh e*) *kāh-kašān*, literally 'the (path of the) chaff-draggers', is surely an inspired popular corruption of the Phl., whence the Ar. *sikkatu/darbu 'l-tabbāna'* and *maġarra'*, Tk. *samanyolu* and -*oġrusu*, Arm. *yardgol(i het)*, North. Kurd. *kādz(ān)*, etc. [continued]

brilliance of the Dragon (*brēh ī gōčīhr*), the serpent which is in the firmament, as has been explained in detail above.]

The next chapter, VI, is entitled 'Concerning the doing battle of the material creations against the Evil Spirit' and is divided into ten sections, each devoted to the battle of a different creation. The sixth section is of particular astrological interest. In it the *thema mundi* described above is treated as the 'nativity' of Gayomart, the First Man.⁵⁴

VI F. The sixth battle Gayomart did.

[68.13] (1) Since it was manifest in the fate⁵⁵ of Gayomart that during the aggression (*ēβgadīh*) he would live for 30 years, through the struggling of the fixed stars and the planets,—(2) as Time (*zamān*) said, before (the onslaught of) the adversary, that the mighty Gayomart (*G. ī tagīg*) was fashioned for a life and lordship of 30 years⁵⁶—(3) at the coming of the adversary the star Jupiter (*Ohrmazd stārag*) was in the watery Crab, the (house of) Life,⁵⁷ in its exaltation. On account of its powerlessness against its opponent (the Great Bear, in effect)⁵⁸ it decreed life (*zīndagīh ī gyān brēhēnīd*) for Gayomart.

[69.5] (4) The star Saturn was in the Balance, in the fourth place (= house),

The Milky Way crosses the ecliptic roughly at the first points of Cancer and Capricorn, with its own 'first points' in Gemini and Sagittarius, and so could be thought of as the Dragon with its Head and Tail in opposite signs. But the author of the *GB* knew of the retrogression of the moon's nodes (v. V A, 5) and certainly also knew that the Milky Way was as fixed as the stars. Since the whole passage appears, moreover, to be out of context it is open to the suspicion of being a later addition. The question, however, is linked with that of the position of the Dragon in the *thema mundi*: see Appendix A, end.

⁵⁴ Schaefer, op. cit., p. 221, n. 2, gives a masterly summary and explanation of the text. It remains only to improve his translation in detail where possible. Taqizadeh also expounds the passage, op. cit., 332 f. See Appendix C below.

⁵⁵ *pad spihr ī G.*, lit. 'in the firmament of G.', as we would say 'in his stars'. Another example of this popular meaning of *spihr* (primarily the 'sphere (of the ecliptic)', v. Henning, ACB, 239, C) is to be found at XXVI, 34 = 167.1: 'All goodness . . . the firmament distributes in the world; him to whom it gives much they call fortunate, him to whom it gives little ill-starred' (〈ō〉 *kē wēš dahēd nēk[ih]-spihr*, *ud* 〈ō〉 *kē kam dahēd wad-spihr xwānēnd*). *nēk-/wad-spihr* are surely synonyms of NP *nīk-/bad-axtar*, or *-baxt*, not 'the goodly/evil Spihr' itself (so Zaehner, op. cit., 338).

⁵⁶ cf. *GB*, IV, 25 = 44.14, 'As He says, "At the primal creation, when the Evil Spirit came to the aggression, Time (*zamān*) decreed (or, fashioned—*brēhēnīd*) Gayomart's life and lordship as 30 years"' ; *W. ī Zādspram*, ii, 19 f., 'For it was the decision of Zurvan, the determiner, at the original incursion of Ahreman, "I shall fashion forth (*frāz brēhēnam*) for 30 winters the salvation of the life (*gyān*) of the brave Gayomart". And the manifestation of it was in the firmament, in the dispensations (*baxšīšn*) of the benefic and malefic (planets), the arrangers of the Mixture'.

⁵⁷ Reading: *pad karzang ī ābīg ī gyān(ān) jāst*. On the watery nature of the sign of the Crab, v. Taqizadeh, op. cit., 310. *Zādspram*, ii, 21, has more explicitly *pad ul-āmadān, ī gyānān-iz xwānīhēd* 'in the ascendant, which is also called the (house of) Life'.

⁵⁸ v. V B, 12–13; in view of what is stated there Taqizadeh's suggestion (op. cit., 333) that Jupiter's inability to do harm was due to the presence of Sirius in the same house cannot be sustained.

which is the Peg below the earth,⁵⁹ in its exaltation. On account of its victory over its opponent (Polaris) it decreed death.

[69.7] (5) On account of Jupiter being in its exaltation at the cusp of (the house of) Life (*mēx ī gyānān*)⁶⁰ and its (resulting) triumph (*abarwēzīh*) over Saturn, it put off (*spōxt*) that death from Gayomart for 30 years.

[69.9] (6) When Saturn came back again to the Balance, which is its exaltation, at that time Jupiter was in the Goat, which is its dejection,⁶¹ and on account of the (resulting) triumph of Saturn over Jupiter death came upon Gayomart and he fell to the left hand.

[69.13] (7) On his passing away⁶² his seed went into the earth, as even now all men shed seed on passing away. (8) Since the body of Gayomart was made of metal (*ayōxšust*), seven kinds of metal appeared from the body of Gayomart.

[70.2] (9) <From> that seed which went into the earth in 40 years there grew up Mashi and Mashani, from whom came the fullness (of the peoples) of the world and (hence) the destruction of the demons and the powerlessness of the Evil Spirit.⁶³

[70.5] (10) This first battle Gayomart did with the Evil Spirit.

APPENDIX A

The horoscope of the world

The *thema mundi* of the *GB* is basically that known as Chaldean or Babylonian, according to which the planets were all in their astrological *ἰψόματα*, or exaltations, i.e. their positions of greatest power.⁶⁴ These positions in the signs of the zodiac are generally given in the classical sources as :

⁵⁹ Reading: *pad gyāg ī čahārom, kū mēx: azēr ī zamīg*. Phl. *gyāg* for 'locus, τόπος' (v. Appendix A) does not seem to have been noticed before owing to the corruption of *ch'lw* into *c AHL MN* in all the MSS. *mēx ī azēr ī zamīg* is properly 'nadir' (Taqizadeh, op. cit., 338), but is used here for Imum Medium Caeli; cf. the misuse of the term for 'zenith' (v. Henning, ACB, 241, D).

⁶⁰ But v. Appendixes A and B.

⁶¹ The periods of rotation of Saturn and Jupiter are 29 years 167 days and 11 years 315 days, or in round numbers 30 and 12 years, respectively. Jupiter would therefore make approximately 2½ rotations while Saturn completed one, and so come into the sign opposite its exaltation, from which it started, i.e. its dejection.

⁶² The following happenings are elaborated at *GB*, XIV, 2 = 100.7 ff., translated and discussed by Schaeder, op. cit., 226 ff.

⁶³ Reading: *kē-šān purr-rawišnih ī gēhān ud aβsēnišn ī dēwān ud akārīh ī Gannāg Mēnōg aziš būd*.

⁶⁴ v. Bouché-Leclercq, op. cit., 184–98. This is expressly stated in the Persian *Rivāyat* first published by Fr. Spiegel, *Die traditionelle Literatur der Parsen*, Wien, 1860, 161 ff., and again in *Dārāb Hormazyār's Rivāyat*, ed. M. R. Unvala, Bombay, 1922, II, 62 ff. The sentence can also be seen in the first line of Tafel 7 accompanying C. Bartholomae's *Zendhandschriften d. Staatsbibl. in München*. Zaehner, op. cit., 417, for *xāna' ī ki šaraf ī išan ast* has the meaningless 'the house of its ascendant'.

☉ Sun	♈ 19° Arietis (Lamb)
☾ Moon	♉ 3° Tauri (Ox)
♄ Saturn	♎ 21° Librae (Balance)
♃ Jupiter	♋ 15° Canceri (Crab)
♂ Mars	♈ 28° Capricorni (Goat)
♀ Venus	♐ 27° Piscium (Fish)
☿ Mercury	♊ 15° Virginis (Ear of Corn)

There are, however, important differences between the Phl. *thema* and both the source from which it ultimately came and the form in which it passed on to the Muslim astrologers.

In the first place the positions of the planets are not described, as before, directly in terms of the signs of the zodiac, but according to the *δωδεκάτοπος*, the system of twelve *loci*, *domus caeli* or 'houses', devised for the interpretation of nativities, etc.⁶⁵

The definition of these twelve houses depends entirely on the horoscope proper, the point of the ecliptic ascending at a given moment. Instead of the expected 15° Canceri, which would have placed Jupiter in its exaltation at the cusp of the first house (*v.* VI F, 5), the surprising figure ♋ 19° is given for this. If it is correctly transmitted, the intention was perhaps to bring the sun exactly in Medio Caeli in its exaltation, 19° Arietis, assuming the concept of equal houses of 30° to have been preserved, if only in this connexion. But whichever figure is taken, the description of the *thema* is irreconcilable with the time noon at the vernal equinox, when the sun, culminating at 0° Arietis by definition, would be in the *ninth* house (15°/19° ♋ — ♈) and not in its exaltation. That this was its supposed position is confirmed by the mention in V B, 5 of its being in the first asterism, or lunar mansion, of Aries. Equally the moon in its exaltation would be in the tenth, not the eleventh, house if the horoscope were 15° or 19° Canceri.

Furthermore, if the figure ♋ 19° is taken as correct, for Jupiter to be still in the first house it must be admitted to have advanced some 4° from its exaltation, which would be in the twelfth house, in contradiction of VI F, 3 and 5. The same is true, *mutatis mutandis*, of Mercury.

It might be thought possible to avoid these anomalies by assuming that the cusp of the Phl. first house was not at the horoscope but some degrees before

⁶⁵ *v.* Appendix B below. It may be remarked in passing that a reference to the Babylonian origin of astrology, and perhaps also to the earlier system of the *δωδεκάτοπος*, is to be found in the text *Šahr(ištān)ihā ī Ērān* (*Pahlavi texts*, ed. J. M. Jamasp-Asana, Bombay, 1897, 18–24; J. Markwart, ed. G. Messina, *A catalogue of the provincial capitals of Ēranshahr*, Rome, 1931), § 24: *šahrīstān ī Bābēl, Bābēl pad xwadāyih ī Jam kard, u-š Tīr abāxtar ōy bē bast, ud mārīg (ī) 7 (ud) 12, ī axtarān ud abāxtarān, ud haštom bahrag pad jādūgih ō mihr ud azērig bē nimūd* 'The capital Babel was built by Babel in the reign of Jam(shed), and he bound the planet Mercury there [☿ is generally considered to have influence over the region of Babylon] and he showed the decree(s) [lit., 'word, sentence'] of the seven and the twelve, viz. the constellations and the planets, and of the eighth part(s?) by sorcery . . .'. The rest is obscure; Babel could hardly have shown anything 'to the sun'—itself one of the planets—and to those below (mankind)'.

it. Although there is no evidence that they were ever adopted in Iran, we may consider both the 'Egyptian' system, in which the cusp lay 15° before the horoscope, and the Ptolemaic, where the distance was 5° .⁶⁶ The latter system would only make confusion more confounded, since the result would be houses beginning at 14° or 10° of each sign. Assuming with the 'Egyptian' system a simultaneous correction of the horoscope to $\approx 15^{\circ}$ would cause the houses to coincide with the signs, with results which are considered below in detail, at the end of Appendix B. By no means would it solve all the problems inherent in the text.

Another novel feature of the Phl. *thema mundi* is the inclusion of the Dragon's Head and Tail. Though there is no explanation of their being placed in the houses characterized by Gemini (Two Images) and Sagittarius (Centaur) respectively, there can be no doubt of the 'correctness' of this, since these signs are later recorded by Muslim astrologers as the 'exaltations' of the two pseudo-planets in question.

The 'Chaldeans' thought of the Dragon as having been created even before the constellations and planets, watching over the universe with its head towards the sunrise and its tail to the sunset.⁶⁷ Placed in the *thema mundi*, therefore, the Head and Tail would necessarily be near the ascendant and occident. That they actually appear in the preceding houses may be due quite simply to a desire not to overcrowd the houses of the Hor. and Occ. in the diagram. If any figure greater than 0° of \approx , say 15° or 19° , was accepted as the degree of the horoscope the Head and Tail, although placed in the preceding houses, could still have been in the same signs as the ascendant and occident respectively. Their transference to the preceding signs would then have come about at a later stage, when the houses of the *thema* came to be thought of as coinciding with the signs; v. end of Appendix B.

At this point, however, it is convenient to recall the statement at the end of V B that the Milky Way is the 'brilliance of the Dragon'. According to Muslim astrologers, the Milky Way crosses the ecliptic in the signs Gemini and Sagittarius, i.e. where the Dragon's Head and Tail have their 'exaltations', in the obviously secondary positions $\Pi 3^{\circ}$ and $\uparrow 3^{\circ}$ (cf. the moon's $\gamma 3^{\circ}$).⁶⁸ It is possible that the author of the statement concerning the Milky Way thought of the galaxy as in some way a permanent mark of the Dragon's most 'exalted' position, to which it returned approximately every score of years. But this may be to put the cart before the horse. It is equally possible that the position of the Dragon in the *thema mundi*, whence the doctrine of the 'exaltations' of its Head and Tail, was the result of its identification with the observed galaxy. In that case the 'brilliance' statement could be accepted as a belated explanation by the author of the *GB* himself.

⁶⁶ v. Bouché-Leclercq, op. cit., 269 f.

⁶⁷ v. Bouché-Leclercq, op. cit., p. 122, n. 3.

⁶⁸ v. al-Birūnī, *Kitāb ul-taḥḥīm*, *The book of instruction in the elements of the art of astrology*, tr. by R. R. Wright, London, 1934; Milky Way, § 167, p. 87; exaltations, § 443, p. 258, 'according to the Greeks and the Persians'.

APPENDIX B

The Dodecatopos

The system of twelve houses developed from a simple quartering of the heavens by way of a system of eight houses.⁶⁹ As the number of houses, so the attributes of each house, i.e. the aspects of human life which they were supposed to affect, proliferated in the course of time. This accounts for the fact that some of the Phl. names of the houses do not represent their 'basic' attributes. The names are :

I	<i>gyānān</i> (souls)	= Vita—Life
II	<i>kīsagān</i> (purses)	= Lucrum—Wealth
III	<i>brādarān</i> (brothers)	= Fratres—Brethren
IV	* <i>pedištān</i> (abodes ?)	: Parentes—Parents
V	<i>frazandān</i> (offspring)	= Filii—Children
VI	<i>waštagān</i> (the sick)	: Valetudo—Health
VII	<i>wayōdagān</i> (nuptials)	= Nuptiae—Marriage
VIII	<i>margān</i> (deaths)	= Mors—Death
IX	<i>kārdāgān</i> (travellers)	= Peregrinatio—Travels
X	<i>mayān ī asmān</i> (Medium Caeli)	= Honores, Actus—Honours, Deeds
XI	<i>farroṣān</i> (the fortunate)	: Amici, Beneficia—Friends, Good deeds
XII	<i>dušfarragān</i> (the unfortunate)	: Inimici, Carcer—Enemies, Prison

I, III, V, and VII–XI were interpreted successfully by Taqizadeh, *op. cit.*, 326–9; the reading *kīsagān* for II is B. T. Anklesaria's; for XII Bailey established the reading *dušfarragān*.⁷⁰ Only IV and VI appear to remain in doubt.

IV. The Phl. spelling *pytyšt'n* immediately calls to mind two words : Man. Parthian *pydyšt'n* 'leg' < Av. *paitištāna-*, and Man. Parth. and MP *pydyšt* 'place, abode' < Av. *paitištā-*.⁷¹ Since all the other names have the ending *-ān*, the former word need detain us no longer. *pydyšt* is not otherwise attested in Phl., where one would expect the spelling **pt(y)št*.⁷² Nor does the name 'abodes' immediately evoke the fourth house, which is mainly that of parents, patrimony, etc. Al-Bīrūnī, however, does list the indication *manāzil* 'houses',⁷³ Persian *xānahā*.

⁶⁹ v. Bouché-Leclercq, *op. cit.*, 280 ff.

⁷⁰ v. H. W. Bailey, *Zoroastrian problems of the ninth-century books*, Oxford, 1943, 50.

⁷¹ v. M. Boyce, *The Manichaean hymn cycles in Parthian*, OUP, 1954, 193, s.vv.; C. Salemann, *Manichäische Studien*, St. Petersburg, 1908, 110, s.v.

⁷² Instead, the expected Persian form *pastān* of a word < **paštān* < *paitištāna-* is perhaps to be found in the phrase X. *ptš pst'n*. Printed *pt špst'n* this occurs in Jamasp-Asana, *Pahl. texts*, 20.4, 23.7, after the name Aži Dahāk, and 85.3, following that of Wuzurgmīhr ī Bōxtagān. It is difficult to imagine what title these two beings could have in common, or what connexion with harems. The following reading of 85.3 f. makes good sense without emendation of the text : *man, W. ī B. (ī) nēwān-padiš-pastān šahr ī Ōstigān-Husraw, darigbad, . . .* 'I, W. B., europalate, of the city of Ostigan-Husraw, abode of the brave (or, good), . . .'. In both the other passages, admittedly, acceptance of the sense 'where Aži Dahāk dwelt' would require that another name, that of the reputed founder of the city in question, had been omitted.

⁷³ *op. cit.*, § 461, p. 275.

VI. The reading *waštaḡān* 'the sick' is Bailey's. The simple form *waštaḡ* is not common, but the abstract *waštaḡih* is well attested, e.g. glossing *xīndagīh* 'sickness', Av. *axti-*, in the Phl. *Vd.*, ii, 5, etc., and Jamasp-Asana, *Pahl. texts*, 162.4, *DkM*, 37.6, etc., *Šāyast-nē-šāyast*, ed. J. C. Tavadia, 10.34, 144, q.v. *waštīh* also occurs, e.g. *DkM*, 161.19, 222.10. The distinction between these words and *wēmārīh* 'illness', with which they are often linked, remains in doubt. Bartholomae translates *waštaḡih* 'Verdrehung, distortion' in a legal context,⁷⁴ i.e. 'turnedness' from the common verb *waštan*, calling to mind the German development of *krank* from 'crooked' to 'sick'. The sixth house, beside health, is naturally also concerned with sickness and defects, Persian *bīmārī u 'aibhā*.

The diagram (v. fig. 1) differs slightly in each manuscript of the *GB* and to some extent disagrees with the text. The points of disagreement concern Venus (omitted from the diagrams of TD₂ and DH), Mercury (always in ☿ with Venus in the text, but in ♀ in TD₂ and written 'Mercury—Ear of Corn' in *Aquarius* in DH), the Dragon's Head (omitted from DH) and Tail (perhaps meant in ☿ in both DH and TD₂).

A notable feature of all the diagrams is the omission of any indication of the degree of the horoscope. Once the figure $\approx 19^\circ$ is ignored, both text and diagram alike give the impression that the twelve houses coincided with the twelve signs ('the house of the Purse was the Lion', etc.) and it was in this form, in fact, that the *thema* was acquired by Muslim astrologers.

Making the houses coincide with the signs of the zodiac, i.e. assuming that the cusp of the first house was intended to be $\approx 0^\circ = 90^\circ$, would have the desirable effect of bringing every planet in its exaltation in the house named or shown in the diagram. It would not, of course, have any effect on the discrepancy between the sun's being in its exaltation $\simeq 19^\circ$ and the time being the vernal equinox $\simeq 0^\circ$, but it would at least bring both positions into the same house X.

On the other hand such an assumption would invalidate the first hypothesis made in Appendix A to explain the positioning of the Head and Tail of the Dragon in the houses XII and VI respectively. Although this consideration may not be thought of any importance, the change would also entail the rejection of much of the first sentence of V A, 2 as secondary. The specific mention there of the lunar mansion *Azarag would have to be considered as subsequent buttressing of the mistaken figure $\approx 19^\circ$ (v. p. 514, n. 21). Also the statement of VI F, 5, implying a cusp of $\approx 15^\circ = 105^\circ$, would remain unreconciled.

In the absence of other evidence it seems impossible to decide whether the figure in the text should be $\approx 19^\circ$ or the somewhat less unlikely 15° . There is no indication of the reason for the adoption of any such figure. It appears from the internal contradictions of the *GB* text, however, that the adoption as the horoscope of a point of the Crab other than the first was a comparatively

⁷⁴ *Zum sas. Recht*, iv, 39.

late innovation. Whether the figure was passed over at an even later stage by accident or design must also remain an open question.

APPENDIX C

The life and death of Gayomart

As Schaeder observed,⁷⁵ the account of Gayomart's living for the first 30 years of the Mixture must be a secondary transformation of the original story of the First Man. It spoils the parallelism between his story and that of the primal Ox, to which Ohrmazd gave a merciful death at the time of the onslaught of Ahreman (*GB*, IV, 20 = 43.11, *Zādspram*, ii, 9), and it delays the creation of mankind proper for a century or more, when this should presumably have been coeval with the onslaught. It is also obvious that the period of 30 years, arrived at by astrological calculations, is secondary to the adoption by Zoroastrians of the foreign 'horoscope of the world'. Beyond this little is certain, but two points are worth stressing.

The first point is the comparative earliness of the invention of the story. It is impossible to say at what period the first knowledge of astrology came to Iran and still less when the *thema mundi* was adopted. Although some time may have passed before the conception and interpretation of the *thema* as the 'nativity' of the First Man, an Iranian innovation, yet this dates from a time when the houses of the Dodecatopos were still reckoned as equal divisions of the ecliptic. Moreover, the interpretation is of the simplest. Not much store can be set by the fact that the eighth house of Death is ignored, since it had no planetary occupant, but the complete absence of any mention of the apheta, or hyleg,⁷⁶ is noteworthy. The establishment of the hyleg had become the normal preliminary for foretelling the length of life of the 'native' and various aphetic theories were current in the ancient world by the time of Ptolemy (second century A.D.).⁷⁷

Although aphetic theories in all their rich confusion later came to Iran and passed thence into Muslim astrology, as the terminology proves, no attempt was made to reinterpret the horoscope of Gayomart, which by then had 'scriptural' authority for believers. It was sufficient for the author of the *GB* to demonstrate the compatibility of astrological and Zoroastrian beliefs, notably by the ingenious explanation (V B, 12-13) of how the planet Jupiter, a demon, could still be the 'star of life' opposed to Saturn. The explanation applies equally to Venus and Mercury, but it is not elaborated in their cases because it is not to the point, the fate of Gayomart.

The second point is the lack of uniformity in the tradition concerning

⁷⁵ op. cit., 218, end of note.

⁷⁶ Hyleg, from Ar. and NP *haylāf*, has not to my knowledge been explained before. It is evidently the Arabicized form of a Middle Persian *hilāg* (cf. Ar. *faylasūf* < Gk. *filósofos*, *tāf* < MP *t'g*), a regular agent or present participle in -āg from the verb *hištan*, *hil*- 'to let, allow, abandon', translating the Gk. *ἀφέρτης* understood as the 'looser'. In the same way the *cochoden*, another reputed dispenser of years of life, is well known to have its name from Pers. *kad-zudāy*, translating *οἰκοδεσπότης*.

⁷⁷ v. Bouché-Leclercq, op. cit., 404-28.

Gayomart. It is not possible to argue strongly *ex silentio*, but Zoroastrian and Muslim texts alike appear to fall into two categories—those which ignore the horoscope and the resulting 30-year life of Gayomart, and those which record them, singly or together.

The oddest silence of all is that of the *Dādestān ī Mēnōg ī Xrad*. Despite its unmistakable exposition of astrological fatalism⁷⁸ it says only of the fate of Gayomart (xxvii, 15) that from him ‘the advantage was . . . his making delivery of his own body to Ahreman in the manner most conformable to the law (*meh-dādestānīhā*)’,⁷⁹ almost as if it were a voluntary act.

According to the *Ayādgar ī Jāmāspīg*,⁸⁰ Gayomart ‘lived for 3,000 years free from aggression and for 30 years during it . . . and as soon as the aggressor came upon him, he died on the spot, and at the moment of dying he said, “It is good that the aggressor came upon me, on account of my little righteousness and goodness”’. This is another kind of fatalism, with scant regard for astrology.

The other important texts have all been collected and discussed by Christensen,⁸¹ reviewed by Schaefer,⁸² and more recently by Hartman.⁸³ Little remains to be said, except to doubt whether the religious traditions, either ‘Zurvanite’ or ‘orthodox dualist’, were as uniform as they are represented, at least on this subject. Once the 30-year period of Gayomart’s life had entered the tradition, it appears that its justification was forgotten or discounted in some circles. Others may never have accepted either.⁸⁴ Astrology was not every man’s meat, even in ancient Iran.

⁷⁸ In ch. xii, quoted and translated in full by Zaehner, *op. cit.*, 399–401. Unfortunately the text suffers one of the many tendentious readings of Phl. to be found in the book. Entirely ignoring the Pazend *pa vašōftan*, Skt. *vināśayitum*, Zaehner corrupts the Phl. text further and combines it with another story, ‘scabrous’ indeed (*ibid.*, 157), to represent that ‘Ahriman conceived and bore [the planets] by committing sodomy on his own person’, in order to lend credence to an old Christian polemic against Zoroastrian ‘senselessness and disgusting imbecility’. The correct reading of the sentence (xii, 7, Zaehner’s 4), preserved in the Pazend, is plainly, ‘Then Ahreman created those seven planets, which are called the seven commanders of Ahreman, for the destruction and taking away from the creatures of Ohrmazd of that goodness, in opposition to the sun and moon and those twelve signs of the zodiac’.

⁷⁹ Or ‘in the most profitable manner’, reading *meh-sūdīhā*. Both the Phl. and Paz. texts have *-dādestān-* written in full, but the Skt. *mahālābhatāyai* suggests a Phl. original *ms-swtyh*’ (as at viii, 30), which could easily be misread as *ms-DYN Ayh*’, with the ideogram for *dādestān*.

⁸⁰ ed. G. Messina, *Libro apocalittico persiano*, Roma, 1939, iv, 2 f.

⁸¹ A. Christensen, *Les types du premier homme et du premier roi dans l’histoire légendaire des Iraniens*, I, Stockholm, 1917, 64–101.

⁸² *op. cit.*, 233 ff.

⁸³ Sven S. Hartman, *Gayōmart, étude sur le syncrétisme dans l’ancien Iran*, Uppsala, 1953, especially pp. 91–110.

⁸⁴ The resulting confusion is explicit in a question posed in *Dēnkard*, III (*DkM*, 20): *pursīd kū, gōwišn ī 2 dastwar abar Gayōmart—ēk kū andar ēβgadīh 30 sāl zīwīst ud ēk kū *ka ēβgad <mad> pad gyāg murd—ān ī ēk ō did hambasān paydāg. har 2 padīvīftan ēštān ēim?* ‘He asked: The words of two authorities on Gayomart—one that he lived for 30 years during the aggression and one that when the aggressor came he died on the spot—are plainly contradictory. Why teach the acceptance of [or, and accept] both?’ The answer vouchsafed is best passed over in silence.